

Appl. No. 10/036,747
Amdt. dated March 14, 2005
Reply to Office Action of December 13, 2004

PATENT

REMARKS/ARGUMENTS

Amendments

The claims are modified in the amendment. More specifically, claims 1 and 24 have been amended and claim 29 has been cancelled. Therefore, claims 1-28 are present for examination. Applicant reserves the right to pursue any canceled claims in a continuing application without any prejudicial effect. Applicant respectfully requests reconsideration of this application as amended.

Interview

Today, the Examiner granted an interview to discuss the outstanding Office Action and suggested amendments. Granting of interviews is always appreciated. No agreement was sought nor was any agreement reached in this interview as this was just a courtesy call to explain our argument presented below.

35 U.S.C. §102 Rejection, Ozawa

The Office Action has rejected claims 1-9, 11-19 and 21-29 under 35 U.S.C. §102(e) as being anticipated by the cited portions of U.S. Patent No. 5,774,835 to Ozawa (hereinafter "Ozawa"). For a valid anticipation rejection, the Office must show that each and every limitation from the claims appears in a single piece of prior art. Applicants believe major limitations from claims 1, 13 and 24 are neither taught nor suggested in Ozawa. More specifically, Ozawa cannot be relied on to teach or suggest: (1) "determining an enhancement signal by finding a difference between the distorted input signal and the enhanced output signal" or (2) "analyzing the enhancement signal." Generally, these limitations are included in all claims. Applicants respectfully request that the anticipation rejection be withdrawn for these reasons.

First Missing Limitation: Determining the Enhancement Signal

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Calculation of an enhancement signal (i.e., a difference between the distorted input signal and the enhanced output signal) is generally required by claims 1, 13 and 24. By calculating the enhancement signal separately, more efficient processing of a signal is possible. Application, page 6, second full paragraph. Ozawa may determine certain things that could be related to the enhancement signal, but Ozawa does not directly operate on the enhancement signal itself. Primarily, Ozawa looks at factors c_i and a_i , which are only related to the enhancement signal and based upon the input signal, S(n) 103.

In the rejection, the Office has noted that an enhancement signal is part of one equation in Ozawa, but to say Ozawa calculates the enhancement signal simply goes too far. Equation 12 of Ozawa might be able to be manipulated to produce the enhancement signal, but Ozawa does not teach or suggest this missing step of our claims. Only by using our claims as a template can the enhancement signal be plucked out of a larger equation 12 of Ozawa with some algebraic manipulations. As discussed in the next sub-section, the second missing limitation accentuates the difference between the claimed invention and Ozawa since there can be no analyzing.

Second Missing Limitation: Analyzing the Enhancement Signal

Claims 1, 13 and 24 require analyzing the enhancement signal or some iteration of it. Ozawa only takes factors c_i and a_i and analyzes them and not the snippet from equation 12. Ozawa, Fig. 2, block 35. Indeed, Applicant believes it would be impossible to calculate c_i and a_i from the enhancement signal portion of equation 12. This makes clear that the enhancement signal is not analyzed to determine c_i and a_i , and by implication, block 35 of Fig. 2 cannot analyze the enhancement signal when only provided c_i and a_i . Stated differently, since Ozawa doesn't separately determine the enhancement signal, it cannot be analyzed.

Missing Limitations In Dependent Claims

Claims 2, 14 and 25 determine parameters from the enhancement signal, which includes a power of the enhancement signal. Ozawa does not separately calculate the enhancement signal so cannot determine parameters from it and certainly does not determine power of it. With regard to claims 5 and 17, the "possible values for at least some of the set" are

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not constrained in Ozawa since the set is not a set applicable to the enhancement signal. With regard to claims 9 and 19, the "forward-in-time" limitation means nothing to Ozawa since the time index for autocorrelation functions is arbitrarily forward or backward and not determined by physical time.

Reconsideration of the claims in their current form is respectfully requested.

35 U.S.C. §103 Rejection, Ozawa in view of Bialik et al.

The Office Action has rejected claims 10 and 20 under 35 U.S.C. §103(a) as being unpatentable over Ozawa in view of the cited portions of U.S. Patent No. 5,544,278 to Bialik et al. (hereinafter "Bialik"). These claims are allowable for at least the reasons given in the preceding section for their corresponding independent claim.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is urged. Reconsideration of the claims in their current form is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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